

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 59073574  
PUBLICATION DATE : 25-04-84

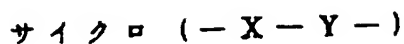
APPLICATION DATE : 21-10-82  
APPLICATION NUMBER : 57183654

APPLICANT : GRELAN PHARMACEUT CO LTD;

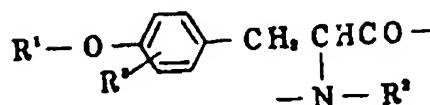
INVENTOR : SATO TAKUMI;

INT.CL. : C07D241/08 C07D403/06 // A61K  
31/495 (C07D403/06 , C07D241/00  
, C07D209/00 )

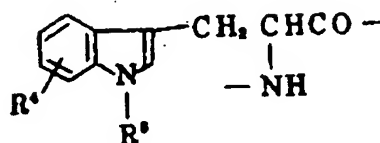
TITLE : CYCLIC DIPEPTIDE



I



II



III

ABSTRACT : NEW MATERIAL: A cyclic dipeptide expressed by formula I [X is an amino acid belonging to aliphatic monoaminomonocarboxylic acids, tyrosine, a tyrosine derivative expressed by formula II (R¹ is alkyl; R² is H or alkenyl; R³ is H or halogen) or tryptophan derivative expressed by formula III (R⁴ is H or OH; R⁵ is H or formyl); Y is an amino acid belonging to diaminomonomocarboxylic acids, provided that Y is not arginine nor lysine when X is tyrosine and Y is not arginine when both R⁴ and R⁵ are H].

EXAMPLE: Cyclo(-Cha-Arg-) [Cha is β-cyclohexylalanine; Arg is N⁷,N⁸-(1,2-dihydroxycyclohex-1,2-ylene)arginine].

USE: An analgesic agent.

PROCESS: Amino acids constituting the aimed compound are condensed to synthesize a chain dipeptide, which is then intramolecularly condensed to afford the aimed compound expressed by formula I.